

REMARKS

Claims 1-31 are pending in the current application. Of those, claims 1, 2, and 22 are independent claims. Claims 22-31 are withdrawn from consideration. Claims 1, 2, and 18-20 are amended by this Response. Claims 13 and 14 are canceled by this Response. No new claims are added by this Response.

Claim Rejections

Claims 1-12, 15-16, 18 and 21 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Quate (US 5,888,371, hereinafter “Quate”). Claims 13-14 and 19-20 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Quate in view of Black et al. (US 2004/0164363, hereinafter “Black”). Claim 17 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Quate in view of Lee et al. (US 2006/0151779, hereinafter “Lee”). Applicant respectfully traverses these rejections.

Claims 1 and 2 are amended to include the features of claims 13 and 14, respectively. The Examiner already admits that Quate fails to disclose the features of claims 13 and 14. Instead, the Examiner relies on Black as disclosing these features. However, Black does not disclose controlling the structure of a film by controlling crystals with a part having a sharp tip. To the contrary, Black discloses at paragraph [0058] “Significantly, the formation of the correct crystal phase is done in solution, completely separate from the rest of the silicon circuit.” Therefore, Black does not use a part having a sharp tip to control the structure of a film by controlling crystals. To the contrary, Black uses a solution to form the correct crystal phase. Black does not disclose a part having a sharp tip, and is completely unrelated to controlling crystals with a part having a sharp tip.

Quate does disclose a conductive tip 302 of an atomic force microscope. However, Quate does not disclose any manipulation of crystals with said microscope. To the contrary, Quate is directed to forming an aperture in a titanium layer. Quate is completely unconcerned with controlling the structure of a film by controlling crystals constituting the film.

Therefore, even assuming a combination of Quate and Black (which Applicant expressly refutes below), Quate and Black fail to disclose, either alone or in combination, “the structure of the film is controlled by controlling [with the part having the sharp tip] (i) a crystalline structure of crystals constituting the film, (ii) an orientation direction of crystals constituting the film, (iii) an orientation direction of molecules in the crystals, or (iv) any combination of (i) through (iii)” as required by claims 1 and 2 as amended.

Further, one skilled in the art would not even begin to look to combine Quate with Black in an attempt to disclose the features of claims 1 and 2 as amended. As noted above, Quate is directed to a titanium layer 13. Titanium does not have a crystalline structure. Accordingly, the skilled artisan would not look to use the atomic force microscope of Quate, which is used only for forming an aperture in titanium, to change the crystal phase of the film in Black. Additionally, the atomic force microscope of Quate is used for making an aperture or cut, and there is no disclosure in Quate that the atomic force microscope may be used for controlling crystals. Black, however, discloses only the use of the solution for forming the correct crystal phase, and provides no reason for the skilled artisan to look to using an atomic force microscope.

Applicant respectfully submits that Lee fails to cure the deficiencies discussed above in regard to Quate and Black, and therefore, claims 1 and 2 are not rendered obvious by a combination of Quate and Lee (which Applicant does not admit), Quate and Black (which Applicant does not admit), or even a combination of Quate, Black, and Lee (which Applicant expressly refutes above). Accordingly, claims 1 and 2 are patentable for at least the above

reasons. Claims 3-12 and 15-21, which depend from one of claims 1 and 2, are patentable for at least the same reasons discussed above in regard to claims 1 and 2 as well as on their own merits.

In view of the above, Applicant respectfully requests the rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the claims in connection with the present application is earnestly solicited.

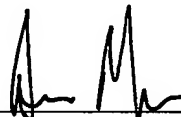
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Donald J. Daley at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKY, & PIERCE, P.L.C.

By

 #61,812

Donald J. Daley, Reg. No. 34,313

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

DJD/AAM: tlt